POTENCY OF ESSENTIAL OIL OF 1% CITRUS LIMON L. FRUIT PEEL ON THE INCREASE OF FGF-2 AND FIBROBLASTS IN RATS WITH ORAL MUCOSAL ULCERS UNDER OXIDATIVE STRESS

ABSTRACK

Background: High oxidative stress can interfere the healing process of oral mucosal ulcers, therefore required a therapeutic substance that can act as an antioxidant. Essential oil of *Citrus Limon L*. fruit peel has antioxidant potential through a high content of limonene. Until now there has been no research on the use of essential oil of *Citrus Limon L*. fruit peel as a medicinal herb in oral mucosal ulcers. **Study Objectives**: Proving the potential of 1% essential oil of *Citrus Limon L*. fruit peel topically to the oral mucosa ulcer healing process through increased expression of FGF-2 and the number of fibroblasts in Wistar rats (*Rattus norvegicus*) with oxidative stress. **Methods:** Thirty Wistar rats exposured to cigarette smoke for 30 days, oral ulcer made on rats mucosa and divided into three treatment groups were treated with 1% essential oil of *Citrus Limon L*. fruit peel and three control groups without treatment. Decapitation was carried out on day 5th, 7th and 9th and then made preparations for histopathological examination to count FGF-2 expression and the number of fibroblasts. **Result:** Independent T-test showed a significant difference between the expression of FGF-2 treatment groups compared to controls at day 5th, 7th and 9th. Differences in the number of fibroblasts significantly on day 7 and 9. **Conclusion:** Application of 1% essential oil of *Citrus Limon L.* fruit peel on the labial mucosa ulceration of wistar rats that experience oxidative stress can increase the expression of fibroblast growth factor-2 (FGF-2) and the number of fibroblasts.

Keywords: essential oil, *Citrus limon L*. antioxidant, oral ulcer.